

Remarks

A. Pending Claims

Claims 947-950, 952-987, 989-1016, 5396, and 5397 are currently pending. Claims 947, 972, and 996 have been amended. Claims 951 and 988 have been cancelled without prejudice. Claims 5396 and 5397 are new.

B. Amendments to the Specification

The amendments to the Specification have been made to clarify the application and/or to correct typographical errors.

C. Allowable Subject Matter

In the Office Action mailed June 16, 2003, the Examiner indicated that claims 951 and 988 include subject matter that is allowable over the prior art. Claim 947 has been amended to incorporate features of claim 951. Claim 972 has been amended to incorporate features of claim 988.

D. Provisional Double Patenting Rejections

In the Office Action mailed June 16, 2003, the Examiner provisionally rejected claims 965, 992, and 1013 as being unpatentable over copending Application Nos. 09/840,937; 09/841,288; and 09/841,445. Applicant respectfully requests reconsideration of the provisional rejections in light of the current amendments to the claims.

E. Anticipation and Obviousness Rejections

The Examiner rejected claim 996 as being anticipated and/or obvious over prior art.

Amended claim 996 describes features including: “wherein the oxidizing fluid is provided at a rate sufficient to limit radial expansion of the heat source zone at a rate of less than 1.5 meters per year”. The above quoted feature is supported in the specification at least by the following paragraph:

With time, reaction zone 524 may slowly extend radially to greater diameters from opening 514 as hydrocarbons are oxidized. Reaction zone 524 may, in many embodiments, maintain a relatively constant width. For example, reaction zone 524 may extend radially at a rate of less than about 0.91 m per year for a hydrocarbon containing formation. For example, for a coal containing formation, reaction zone 524 may extend radially at a rate between about 0.5 m per year to about 1 m per year. For an oil shale containing formation, reaction zone 524 may extend radially about 2 m in the first year and at a lower rate in subsequent years due to an increase in volume of reaction zone 524 as reaction zone 524 extends radially. Such a lower rate may be about 1 m per year to about 1.5 m per year. Reaction zone 524 may extend at slower rates for hydrocarbon rich formations (e.g., coal) and at faster rates for formations with more inorganic material in it (e.g., oil shale) since more hydrocarbons per volume are available for combustion in the hydrocarb on rich formations. (Specification, page 78, line 23).

The cited prior art does not appear to teach or suggest limiting “radial expansion of the heat source zone at a rate of less than 1.5 meters per year”. Applicant requests removal of the rejections of amended claim 996 and the claims dependent thereon.

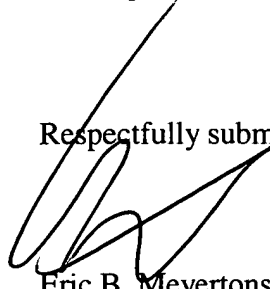
F. Additional Remarks

In the “Response to Arguments” section of the Office Action mailed June 16, 2003, the Examiner states: “With regards to claims 949, 976, and 999; applicant has failed to provide any structural features of the claimed “critical flow orifices” which differentiate them from the radial flow jets disclosed by Alleman. The jets are clearly orifices, and they clearly allow flow. It is apparent the flow through the jets is critical, since the Alleman invention would not operate without said flow.” Applicant respectfully disagrees. The Alleman invention does not suggest or teach critical flow through the jets. There is no suggestion that the flow through the Alleman jets is in the critical flow regime or that the Alleman invention would not operate without said flow.

Applicant submits that all claims are in condition for allowance. Favorable reconsideration is respectfully requested.

A Fee Authorization in the amount of \$750.00 is enclosed to cover the fee for a request for continued examination. If an extension of time is required, Applicant hereby requests the appropriate extension of time. If any additional fees are required, please appropriately charge those fees to Meyertons, Hood, Kivlin, Kowert & Goetzel, P.C. Deposit Account Number 50-1505/5659-01000/EBM.

Respectfully submitted,



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